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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12/27/07*.

2a)☒ This action is **FINAL**.　　　2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☒ All　b)☐ Some * c)☐ None of:

　　　1.☒ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
　　Paper No(s)/Mail Date *attached*.

4) ☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____ .

DETAILED ACTION

Response to Amendment

1.   This office action is responsive to applicant's remarks received on December 27, 2007.

Claims 1-14 remain pending.

Response to Arguments

2.   Applicant's arguments with respect to amended claims 1, 7, 9, 10 & 12 filed on December

27, 2007 have been fully considered but they are not persuasive.

A: Applicant's Remarks

Applicant submits that even if the two patents relied on in the Office Action are taken as teaching all that they are cited for, and even assuming for argument's sake that the proposed combination is a permissible one, the result of such combination would not result in an apparatus having the control means as recited in Claim 1. In particular, at the very least, the result of such combination would not have control means that extract edges of an object in the rendering instructions in each line and exercise control so as to use the first rendering means for the object between the edges if it is determined that the rendering instructions include a rendering instruction that cannot be implemented by overwrite, and so as to use second rendering means if it is determined that the rendering instructions do not include a rendering instruction that cannot be implemented by overwrite.

For at least this reason, Claim 1 is believed to be allowable over Ohnishi and Shimizu, taken separately or in any permissible combination (if any).

Independent Claims 7 and 12 are directed, respectively, to a method and a printer driver, and correspond to apparatus Claim 1, and are believed to be patentable for at least the same reasons as discussed above in connection with Claim 1.

A review of the other art of record has failed to reveal anything which, in Applicant's opinion, would remedy the deficiencies of the art discussed above, as references against the independent claims herein. Those claims are therefore believed patentable over the art of record.

The other claims in this application are each dependent from one or another of the independent claims discussed above and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention,

however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

A: Examiner's Response

Examiner submits that Ohnishi and Shimizu as combined does result in an apparatus having the control means as recited in Claim 1. Shimzu '055 discloses control means that extract edges of an object in the rendering instructions in each line and exercise control so as to use the first rendering means for the object between the edges if it is determined that the rendering instructions include a rendering instruction that cannot be implemented by overwrite, and so as to use second rendering means if it is determined that the rendering instructions do not include a rendering instruction that cannot be implemented by overwrite (*"...and control means for controlling the band rendering to be executed without lowering the color gradation when the banding process is judged to be executable by said judgment means, or the degrade rendering to be executed by lowering the color gradation when the banding process is judged to be inexecutable."* column 3, lines 10-15). See also (*"At step 901, the CPU 12 extracts scan line information (x min, x max) in the Y coordinate from the mask information of intermediate data created in the management RAM 7 through the PDL analysis task 120, and writes corresponding background information into a band raster memory 10 by referring to the current background information and logical drawing mode."* column 8, lines 10-16).

For at least this reason, Claim 1 is not allowable over Ohnishi and Shimizu. Independent Claims 7 and 12 are directed, respectively, to a method and a printer driver, and correspond to apparatus Claim 1, and are not patentable for at least the same reasons as discussed above in

connection with Claim 1. The other claims in this application are each dependent from one or another of the independent claims discussed above and are therefore not patentable. Thus, Applicant's arguments with respect to amended claims 1, 7, 9, 10 &12 filed on December 27, 2007 have been fully considered but they are not persuasive.

Claim Rejections - 35 USC § 112

1.   **Regarding claims 1 &12,** the word "means" is preceded by the word(s) "for the object between the edges" in an attempt to use a "means" clause to recite a claim element as a means for performing a specified function.   However, since no function is specified by the word(s) preceding "means," it is impossible to determine the equivalents of the element, as required by 35 U.S.C. 112, sixth paragraph. See *Ex parte Klumb*, 159 USPQ 694 (Bd. App. 1967).

2.   **Regarding claim 7,** the word "step" is preceded by the word(s) "for the object between the edges" in an attempt to use a "step" clause to recite a claim element as a means for performing a specified function.   However, since no function is specified by the word(s) preceding "means," it is impossible to determine the equivalents of the element, as required by 35 U.S.C. 112, sixth paragraph. See *Ex parte Klumb*, 159 USPQ 694 (Bd. App. 1967).

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4.   **Claims 1-3, 6-9 & 12-14** are rejected under 35 U.S.C. 103(a) as being unpatentable over

Ohnishi '465 (US 6,853,465 B1 hereinafter, Ohnishi '465) in combination with Shimzu (US

6,490,055 hereinafter, Shimzu '055).

     Regarding claim 1; Ohnishi '465 discloses a printing control apparatus for outputting

print data and executing printing, comprising: storage means, to which rendering instructions

are input, for storing the rendering instructions page by page (*"FIG. 2 is a conceptual diagram*

showing a process during which data, which is associated with an image processing control

program and which is stored in the storage device of a medium reading unit, is read by a

central processing unit and a print command is input by an input unit for the transmission of

data to a printer;" column 2, lines 14-19); a first rendering means for developing rendering

instructions applicable to each line into multi-valued bitmap data and subjecting the multi-

valued bitmap data to color processing and n-value conversion processing (*"...while referring*

to the pattern plane, color conversion, which is consonant with the attribute of an object, is

performed for the obtained multi-value bit map, and the resultant bit map is binarized (n-

valued) to obtain a device bit map. When the processing has been completed for the overall

image, the device bit map is transmitted to the printer. Color correction may be performed

either before or after the color data have been used to generate the bit map." column 4, lines

15-22); a second rendering means for subjecting the rendering instructions to color processing

and n-value conversion processing color by color of the rendering instructions, storing the

results in the form of an n-valued pattern, and pasting the n-valued pattern in an applicable area

of the rendering instructions thereby to achieve development into n-valued bitmap data

(*"…while referring to the pattern plane, color conversion, which is consonant with the attribute of an object, is performed for the obtained multi-value bit map, and the resultant bit map is binarized (n-valued) to obtain a device bit map. When the processing has been completed for the overall image, the device bit map is transmitted to the printer. Color correction may be performed either before or after the color data have been used to generate the bit map."* column 4, lines 15-22); a determining means for reading out rendering instructions that have been stored in said storage means and determining whether the rendering instructions include a rendering instruction that cannot be implemented by overwrite (*"FIG. 2 is a conceptual diagram showing a process during which data, which is associated with an image processing control program and which is stored in the storage device of a medium reading unit, is read by a central processing unit and a print command is input by an input unit for the transmission of data to a printer;"* column 2, lines 14-19).

Ohnishi '465 does not expressly disclose control means for extracting edges of an object in the rendering instructions in each line and exercising control so as to use said first rendering means for the object between the edges if said determining means determines that the rendering instructions include a rendering instruction that cannot be implemented by overwrite, and use said second rendering means if said determining means determines that the rendering instructions do not include a rendering instruction that cannot be implemented by overwrite

Shimizu '055 discloses control means for extracting edges of an object in the rendering instructions in each line and exercising control so as to use said first rendering means for the object between the edges if said determining means determines that the rendering instructions include a rendering instruction that cannot be implemented by overwrite, and use said second

rendering means if said determining means determines that the rendering instructions do not include a rendering instruction that cannot be implemented by overwrite (*"…and control means for controlling the band rendering to be executed without lowering the color gradation when the banding process is judged to be executable by said judgment means, or the degrade rendering to be executed by lowering the color gradation when the banding process is judged to be inexecutable."* column 3, lines 10-15). See also (*"At step 901, the CPU 12 extracts scan line information (x min, x max) in the Y coordinate from the mask information of intermediate data created in the management RAM 7 through the PDL analysis task 120, and writes corresponding background information into a band raster memory 10 by referring to the current background information and logical drawing mode."* column 8, lines 10-16).

Ohnishi '465 and Shimzu '055 are combinable because they are from same field of endeavor of a printing apparatus (*"The present invention relates to a color printing apparatus…"* Shimzu '055 at column 1, lines 10).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the printing apparatus as taught by Ohnishi '465 by adding control means for extracting edges of an object in the rendering instructions in each line and exercising control so as to use said first rendering means for the object between the edges if said determining means determines that the rendering instructions include a rendering instruction that cannot be implemented by overwrite, and use said second rendering means if said determining means determines that the rendering instructions do not include a rendering instruction that cannot be implemented by overwrite as taught by Shimzu '055.

The motivation for doing so would have been because it advantageous to provide a color printing apparatus at a lower cost and with a certain precision (*"...it is an object of the present invention to provide a color printing apparatus which can realize a color logical drawing at lower cost and with a certain precision."* Shimzu '055 at column 2, lines 28-31).

Therefore, it would have been obvious to combine Ohnishi '465 with Shimzu '055 to obtain the invention as specified in claim 1.

Regarding claim 2; Ohnishi '465 discloses where said first rendering means includes: means for generating multi-valued bitmap data based upon the rendering instructions; first color correcting means for performing a color correction of the multi-valued bitmap data; first color converting means for converting colors of the multi-valued bitmap data that has been subjected to the color correction by said first color correcting means to multi-valued bitmap data of another color space; and n-value converting means for subjecting the multi-valued bitmap data that has been subjected to the color conversion by said first color converting means to an n-value conversion (*"...while referring to the pattern plane, color conversion, which is consonant with the attribute of an object, is performed for the obtained multi-value bit map, and the resultant bit map is binarized (n-valued) to obtain a device bit map. When the processing has been completed for the overall image, the device bit map is transmitted to the printer. Color correction may be performed either before or after the color data have been used to generate the bit map."* column 4, lines 15-22).

Regarding claim 3; Ohnishi '465 discloses where said second rendering means includes: second color correcting means for correcting colors of an image included in the rendering instructions; second color converting means for converting colors of the image that has been

subjected to the color correction by said second color correcting means to colors of another

color space; image n-value converting means for subjecting the image data of the image that

has been subjected to the color conversion by said second color converting means to an n-value

conversion and creating an n-valued pattern; and means for creating n-valued bitmap data based

upon the n-valued pattern obtained by the n-value conversion performed by said image n-value

converting means (*"...while referring to the pattern plane, color conversion, which is*

consonant with the attribute of an object, is performed for the obtained multi-value bit map, and

the resultant bit map is binarized (n-valued) to obtain a device bit map. When the processing

has been completed for the overall image, the device bit map is transmitted to the printer. Color

correction may be performed either before or after the color data have been used to generate

the bit map." column 4, lines 15-22).

Regarding claim 6; Ohnishi '465 discloses where the value of n is 2 (*"In the optimal*

color process for each object, for example, a coefficient for color conversion, and the size of a

dither matrix for binarization and a threshold value are consonant with the attribute of an

object. The size of an n-valued dither matrix, a threshold value and the number of sheets may be

consonant with the attribute of an object." column 7, lines 27-32).

Regarding claim 7; Ohnishi '465 discloses a printing control method for outputting print

data and executing printing, comprising: a storage step of inputting rendering instructions and

storing the rendering instructions in a memory page by page (*"FIG. 2 is a conceptual diagram*

showing a process during which data, which is associated with an image processing control

program and which is stored in the storage device of a medium reading unit, is read by a

central processing unit and a print command is input by an input unit for the transmission of

data to a printer;" column 2, lines 14-19); a first rendering step of developing rendering

instructions applicable to each line into multi-valued bitmap data and subjecting the multi-

valued bitmap data to color processing and n-value conversion processing (*"...while referring*

to the pattern plane, color conversion, which is consonant with the attribute of an object, is

performed for the obtained multi-value bit map, and the resultant bit map is binarized (n-

valued) to obtain a device bit map. When the processing has been completed for the overall

image, the device bit map is transmitted to the printer. Color correction may be performed

either before or after the color data have been used to generate the bit map." column 4, lines

15-22); a second rendering step of subjecting the rendering instructions to color processing and

n-value conversion processing color by color of the rendering instructions, storing the results in

the form of an n-valued pattern, and pasting the n-valued pattern in an applicable area of the

rendering instructions to thereby achieve development into n-valued bitmap data (*"...while*

referring to the pattern plane, color conversion, which is consonant with the attribute of an

object, is performed for the obtained multi-value bit map, and the resultant bit map is binarized

(n-valued) to obtain a device bit map. When the processing has been completed for the overall

image, the device bit map is transmitted to the printer. Color correction may be performed

either before or after the color data have been used to generate the bit map." column 4, lines

15-22); a determining step of determining whether rendering instructions that have been read

out of the memory include a rendering instruction that cannot be implemented by overwrite

(*"FIG. 2 is a conceptual diagram showing a process during which data, which is associated*

with an image processing control program and which is stored in the storage device of a

medium reading unit, is read by a central processing unit and a print command is input by an

input unit for the transmission of data to a printer;" column 2, lines 14-19).

Ohnishi '465 does not expressly disclose a control step of extracting edges of an object in

the rendering instructions in each line and exercising control so as to use said first rendering

step for the object between the edges if it is determined in said determining step that the

rendering instructions include a rendering instruction that cannot be implemented by overwrite,

and use to said second rendering step if it is determined in said determining step that the

rendering instructions do not include a rendering instruction that cannot be implemented by

overwrite.

Shimizu '055 discloses a control step of extracting edges of an object in the rendering

instructions in each line and exercising control so as to use said first rendering step for the

object between the edges if it is determined in said determining step that the rendering

instructions include a rendering instruction that cannot be implemented by overwrite, and use to

said second rendering step if it is determined in said determining step that the rendering

instructions do not include a rendering instruction that cannot be implemented by overwrite

(*"...and control means for controlling the band rendering to be executed without lowering the*

color gradation when the banding process is judged to be executable by said judgement means,

or the degrade rendering to be executed by lowering the color gradation when the banding

process is judged to be inexecutable." column 3, lines 10-15). See also (*"At step 901, the CPU*

12 extracts scan line information (x min, x max) in the Y coordinate from the mask information

of intermediate data created in the management RAM 7 through the PDL analysis task 120, and

writes corresponding background information into a band raster memory 10 by referring to the current background information and logical drawing mode." column 8, lines 10-16).

Ohnishi '465 and Shimzu '055 are combinable because they are from same field of endeavor of a printing apparatus (*"The present invention relates to a color printing apparatus..."* Shimzu '055 at column 1, lines 10).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the printing apparatus as taught by Ohnishi '465 by adding a control step of extracting edges of an object in the rendering instructions in each line and exercising control so as to use said first rendering step for the object between the edges if it is determined in said determining step that the rendering instructions include a rendering instruction that cannot be implemented by overwrite, and use to said second rendering step if it is determined in said determining step that the rendering instructions do not include a rendering instruction that cannot be implemented by overwrite as taught by Shimzu '055.

The motivation for doing so would have been because it advantageous to provide a color printing apparatus at a lower cost and with a certain precision (*"...it is an object of the present invention to provide a color printing apparatus which can realize a color logical drawing at lower cost and with a certain precision."* Shimzu '055 at column 2, lines 28-31).

Therefore, it would have been obvious to combine Ohnishi '465 with Shimzu '055 to obtain the invention as specified in claim 1.

Regarding claim 8; Ohnishi '465 discloses where said first rendering step includes: a step of generating multi-valued bitmap data based upon the rendering instructions; a first color correcting step of performing a color correction of the multi-valued bitmap data; a first color

converting step of converting colors of the multi-valued bitmap data that has been subjected to the color correction at said first color correcting step to multi-valued bitmap data of another color space; and an n-value converting step of subjecting the multi-valued bitmap data that has been subjected to the color conversion at said first color converting step to an n-value conversion (*"...while referring to the pattern plane, color conversion, which is consonant with the attribute of an object, is performed for the obtained multi-value bit map, and the resultant bit map is binarized (n-valued) to obtain a device bit map. When the processing has been completed for the overall image, the device bit map is transmitted to the printer. Color correction may be performed either before or after the color data have been used to generate the bit map."* column 4, lines 15-22).

Regarding claim 9; Ohnishi '465 discloses where said second rendering step includes: a second color correcting step of correcting colors of an image included in the rendering instructions; a second color converting step of converting colors of the image that has been subjected to the color correction in said second color correcting step to colors of another color space; an image n-value converting step of subjecting the image data of the image that has been subjected to the color conversion at said second color converting step to an n-value conversion and creating an n-valued pattern; and a step of creating n-valued bitmap data based upon the n-valued pattern obtained by the n-value conversion performed in said image n-value converting step (*"...while referring to the pattern plane, color conversion, which is consonant with the attribute of an object, is performed for the obtained multi-value bit map, and the resultant bit map is binarized (n-valued) to obtain a device bit map. When the processing has been completed for the overall image, the device bit map is transmitted to the printer. Color*

correction may be performed either before or after the color data have been used to generate the bit map." column 4, lines 15-22).

Regarding claim 12; Ohnishi '465 discloses a printer driver for receiving rendering instructions from an application, creating print data and outputting the print data to a printing apparatus, comprising: storage means, to which rendering instructions are input from the application, for storing the rendering instructions in a memory page by page (*"FIG. 2 is a conceptual diagram showing a process during which data, which is associated with an image processing control program and which is stored in the storage device of a medium reading unit, is read by a central processing unit and a print command is input by an input unit for the transmission of data to a printer;"* column 2, lines 14-19); a first rendering means for expanding rendering instructions applicable to each line, which rendering instructions have been stored in the memory, into multi-valued bitmap data and subjecting the multi-valued bitmap data to color processing and n-value conversion processing (*"...while referring to the pattern plane, color conversion, which is consonant with the attribute of an object, is performed for the obtained multi-value bit map, and the resultant bit map is binarized (n-valued) to obtain a device bit map. When the processing has been completed for the overall image, the device bit map is transmitted to the printer. Color correction may be performed either before or after the color data have been used to generate the bit map."* column 4, lines 15-22); a second rendering means for subjecting the rendering instructions that have been stored in the memory to color processing and n-value conversion processing color by color of the rendering instructions, storing the results in the form of an n-valued pattern, and pasting the n-valued pattern in an applicable area of the rendering instructions thereby to achieve development into n-valued

bitmap data ("...*while referring to the pattern plane, color conversion, which is consonant with the attribute of an object, is performed for the obtained multi-value bit map, and the resultant bit map is binarized (n-valued) to obtain a device bit map. When the processing has been completed for the overall image, the device bit map is transmitted to the printer. Color correction may be performed either before or after the color data have been used to generate the bit map.*" column 4, lines 15-22); a determining means for reading out rendering instructions that have been stored in the memory and determining whether the rendering instructions include a rendering instruction that cannot be implemented by overwrite; ("*FIG. 2 is a conceptual diagram showing a process during which data, which is associated with an image processing control program and which is stored in the storage device of a medium reading unit, is read by a central processing unit and a print command is input by an input unit for the transmission of data to a printer;*" column 2, lines 14-19).

Ohnishi '465 does not expressly disclose control means for extracting edges of an object in the rendering instructions in each line and exercising control so as to use said first rendering means for the object between the edges if said determining means determines that the rendering instructions include a rendering instruction that cannot be implemented by overwrite, and use said second rendering means if said determining means determines that the rendering instructions do not include a rendering instruction that cannot be implemented by overwrite.

Shimizu '055 discloses control means for extracting edges of an object in the rendering instructions in each line and exercising control so as to use said first rendering means for the object between the edges if said determining means determines that the rendering instructions include a rendering instruction that cannot be implemented by overwrite, and use said second

rendering means if said determining means determines that the rendering instructions do not include a rendering instruction that cannot be implemented by overwrite (*"…and control means for controlling the band rendering to be executed without lowering the color gradation when the banding process is judged to be executable by said judgment means, or the degrade rendering to be executed by lowering the color gradation when the banding process is judged to be inexecutable."* column 3, lines 10-15). See also (*"At step 901, the CPU 12 extracts scan line information (x min, x max) in the Y coordinate from the mask information of intermediate data created in the management RAM 7 through the PDL analysis task 120, and writes corresponding background information into a band raster memory 10 by referring to the current background information and logical drawing mode."* column 8, lines 10-16).

Ohnishi '465 and Shimzu '055 are combinable because they are from same field of endeavor of a printing apparatus (*"The present invention relates to a color printing apparatus…"* Shimzu '055 at column 1, lines 10).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the printing apparatus as taught by Ohnishi '465 by adding control means for extracting edges of an object in the rendering instructions in each line and exercising control so as to use said first rendering means for the object between the edges if said determining means determines that the rendering instructions include a rendering instruction that cannot be implemented by overwrite, and use said second rendering means if said determining means determines that the rendering instructions do not include a rendering instruction that cannot be implemented by overwrite as taught by Shimzu '055.

The motivation for doing so would have been because it advantageous to provide a color printing apparatus at a lower cost and with a certain precision (*"...it is an object of the present invention to provide a color printing apparatus which can realize a color logical drawing at lower cost and with a certain precision."* Shimzu '055 at column 2, lines 28-31).

Therefore, it would have been obvious to combine Ohnishi '465 with Shimzu '055 to obtain the invention as specified in claim 1.

Regarding claim 13; Ohnishi '465 discloses where said first rendering means includes: means for generating multi-valued bitmap data based upon the rendering instructions; first color correcting means for performing a color correction of the multi-valued bitmap data; first color converting means for converting colors of the multi-valued bitmap data that has been subjected to the color correction by said first color correcting means to multi-valued bitmap data of another color space; and n-value converting means for subjecting the multi-valued bitmap data that has been subjected to the color conversion by said first color converting means to an n-value conversion (*"...while referring to the pattern plane, color conversion, which is consonant with the attribute of an object, is performed for the obtained multi-value bit map, and the resultant bit map is binarized (n-valued) to obtain a device bit map. When the processing has been completed for the overall image, the device bit map is transmitted to the printer. Color correction may be performed either before or after the color data have been used to generate the bit map."* column 4, lines 15-22).

Regarding claim 14; Ohnishi '465 discloses a where said second rendering means includes: second color correcting means for correcting colors of an image included in the rendering instructions; second color converting means for converting colors of the image that

has been subjected to the color correction by said second color correcting means to colors of another color space; image n-value converting means for subjecting the image data of the image that has been subjected to the color conversion by said second color converting means to an n-value conversion and creating an n-valued pattern; and means for creating n-valued bitmap data based upon the n-valued pattern obtained by the n-value conversion performed by said image n-value converting means (*"...while referring to the pattern plane, color conversion, which is consonant with the attribute of an object, is performed for the obtained multi-value bit map, and the resultant bit map is binarized (n-valued) to obtain a device bit map. When the processing has been completed for the overall image, the device bit map is transmitted to the printer. Color correction may be performed either before or after the color data have been used to generate the bit map."* column 4, lines 15-22).

5.   **Claims 4, 5, 10 & 11** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohnishi '465 in combination with Shimzu '055.

         Regarding claim 4; Ohnishi '465 as modified does not expressly disclose where said storage means sorts and stores entered rendering instructions, and said first and second rendering means read out and process the rendering instructions in the order in which they have been sorted and stored in said storage means.

         Shimzu '055 discloses where said storage means sorts and stores entered rendering instructions, and said first and second rendering means read out and process the rendering instructions in the order in which they have been sorted and stored in said storage means (*"Each mask object finally created is made by subdividing a page memory for the rendering*

with smaller memory capacity than the full page memory, i.e., banding, into multiple bands (desirably a power of 2 in height, and optimally about 512 dots), sorting each mask object for each band, and making up a link list as shown in FIG. 5D within each band." column 6, lines 38-44).

Ohnishi '465 and Shimzu '055 are combinable because they are from same field of endeavor of a printing apparatus (*"The present invention relates to a color printing apparatus..."* Shimzu '055 at column 1, lines 10).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the printing apparatus as taught by Ohnishi '465 by adding where said storage means sorts and stores entered rendering instructions, and said first and second rendering means read out and process the rendering instructions in the order in which they have been sorted and stored in said storage means as taught by Shimzu '055.

The motivation for doing so would have been because it advantageous to provide a color printing apparatus at a lower cost and with a certain precision (*"...it is an object of the present invention to provide a color printing apparatus which can realize a color logical drawing at lower cost and with a certain precision."* Shimzu '055 at column 2, lines 28-31).

Therefore, it would have been obvious to combine Ohnishi '465 with Shimzu '055 to obtain the invention as specified in claim 1.

Regarding claim 5; Shimzu '055 discloses where the sorting order is in a direction from the top to the bottom of a page (*"Each mask object finally created is made by subdividing a page memory for the rendering with smaller memory capacity than the full page memory, i.e., banding, into multiple bands (desirably a power of 2 in height, and optimally about 512 dots),*

sorting each mask object for each band, and making up a link list as shown in FIG. 5D within

each band." column 6, lines 38-44).

Regarding claim 10; Shimzu '055 discloses where inputted rendering instructed are

sorted and stored in the memory in said storage step, and the rendering instructions are read out

and processed in said first and second rendering steps in the order in which they have been

sorted and stored in the memory. (*"Each mask object finally created is made by subdividing a*

page memory for the rendering with smaller memory capacity than the full page memory, i.e.,

banding, into multiple bands (desirably a power of 2 in height, and optimally about 512 dots),

sorting each mask object for each band, and making up a link list as shown in FIG. 5D within

each band." column 6, lines 38-44).

Regarding claim 11; Shimzu '055 discloses where the sorting order is in a direction

from the top to the bottom of a page. (*"Each mask object finally created is made by subdividing*

a page memory for the rendering with smaller memory capacity than the full page memory, i.e.,

banding, into multiple bands (desirably a power of 2 in height, and optimally about 512 dots),

sorting each mask object for each band, and making up a link list as shown in FIG. 5D within

each band." column 6, lines 38-44).

Conclusion

6.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to MARCUS T. RILEY whose telephone number is (571)270-1581.

The examiner can normally be reached on Monday - Friday, 7:30-5:00, est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Twyler L. Haskins can be reached on 571-272-7406. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

                                                    Marcus T. Riley
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3/13/08